

Request for Proposals

Municipal Road Erosion Inventory Methodology Development

Release date: Friday May 2, 2014

Due Date: Friday May 16, 2014 by 5pm

1. Introduction

The Vermont Department of Environmental Conservation (VTDEC) Ecosystem Restoration Program (ERP) is pleased to announce a Request for Proposals (RFP) for technical services to develop a road erosion inventory methodology. The methodology will be used by Vermont municipalities to identify sections of local roads in need of sediment and erosion control, assess the degree of need for sediment and erosion control, rank road segments that pose the highest risks to surface waters, and estimate costs to remediate those sites using Best Management Practices. Up to \$9,500 of state ERP funds are available for this project. This project will support the reduction of sediment, phosphorus pollutants and other contaminants generated from unpaved municipal roads that contribute to water quality degradation.

This project will develop a replicable road erosion inventory methodology for inventorying and mapping locations of eroded road segments. The methodology must be consistent, intuitive and simple to replicate among Vermont's 255 towns, cities and gores. Results of the methodology will help guide capital budget planning by municipalities to identify, plan for and remediate road-related erosion and sediment problems, as well as road segments vulnerable to flood hazards. **The work is expected to begin with a kick-off meeting in June 2014 and be completed by May 2015.**

Proposals in an *electronic* format are due Friday May 16, 2014 by 5pm delivered to Michaela Stickney: michaela.stickney@state.vt.us, (802) 490-6117. Late or incomplete proposals will not be considered. Please direct questions about this RFP to Michaela Stickney at the contact information listed above.

The successful candidate will be notified by May 21, 2014.

2. Background and Purpose

Municipal roads in Vermont contribute significant amounts of sediment and phosphorus to Vermont waters. The Vermont Agency of Transportation (VTrans) calculates there are 11,444 miles of road in Vermont maintained by municipalities, and 7,073 of these miles are unpaved gravel or unimproved roads. According to University of Vermont research funded by the Lake Champlain Basin Program, unpaved roads contribute up to 30% of the annual suspended sediment load and up to 11% of the annual total phosphorus load transported by headwater streams of the Winooski River into Lake Champlain (Wemple, 2013).

Request for Proposals
Municipal Road Erosion Inventory Methodology Development
Released May 2, 2014

The Vermont Better Back Roads Program (VBBR), administered by VTrans, estimates that up to 75% of all roads may need some level of erosion control improvements. Installing simple erosion control Best Management Practices (BMPs) on municipal roads should save towns annual maintenance and emergency repair costs, and improve water quality.

The VBBR is a fifteen year old program created to improve water quality by supporting water quality-friendly road management practices. Grants are awarded to municipalities and watershed or road associations to correct road conditions that contribute sediment and phosphorus pollutants to surface waters. Projects include lining ditches with rock to reduce water flow and sediment loss, replacing undersized culverts, using stone lining at culvert outfalls, and restoring vegetation and resloping road shoulders that border shorelines to slow runoff. The VBBR issues two types of grants -- (a) road inventory and capital budget plans that set priorities on which critical problems to address first, and, (b) implementation grants to install corrective actions.

To date, 80% of all the towns in Vermont have received Better Back Roads grants. The VBBR program strongly advocates that road erosion inventories, capital budget planning and cost estimates occur before applying for implementation grants. This project will be very useful in helping target municipal and grant funding to the highest priority projects.

Starting point. Two existing road erosion inventory methodologies used by the White River Partnership and Friends of Mad River may also serve as a helpful basis to launch this project. The State is also developing a **statewide Road Erosion Risk GIS Analysis of Class 3 and 4 roads, highlighting potential erosion locations that directly impact surface waters. Maps generated by this project will serve as a basis for the road erosion inventory methodology and the maps are expected to be completed by October 2014.**

3. Scope of Work and Deliverables

The VTDEC Ecosystem Restoration Program seeks proposals from consultants to provide necessary personnel, equipment, services, and facilities to develop a road erosion inventory methodology that may be used statewide in Vermont. Proposals must address the following elements described in Parts A - D:

Part A: Develop a road erosion inventory methodology that includes a road inventory template and a capital budget planning template

[Note: The methodology should cost a municipality \$4,000 - \$5,000 to implement.]

A1. The methodology must include a **road erosion inventory template** that is:

- Consistent
- Intuitive to read and interpret
- Applicable to a diverse array of road and erosion conditions statewide
- Replicable by a diverse group of assessors, whether private consultants, road crews, regional planning commissions, municipal staff, college students, or citizen volunteers

Request for Proposals
Municipal Road Erosion Inventory Methodology Development
Released May 2, 2014

- Correlated with the current VTrans Road and Bridge Codes and Standards (2013)
- Correlated with Best Management Practices in the Vermont Better Back Roads Manual
- Informed by the statewide Road Erosion Risk GIS Analysis of Class 3 and 4 roads which will be completed by 10/31/14

A2. The methodology must include a **capital budget planning template** that is:

- Consistent
- Intuitive to read and interpret
- Organized to easily rank projects that will support priority setting and target limited funding
- Replicable by municipal staff and consultants after inventories are complete
- Flexible to initially estimate projects while allowing for future bids to determine exact costs or alternatives
- Brings high priority road segments into compliance with VTrans Road and Bridge Codes and Standards (2013)
- Correlated with Best Management Practices in the Vermont Better Back Roads Manual

A3. The methodology must include a **user's guide for both templates.**

A4. Several examples of road erosion inventories, assessments and Best Management Practices may be found at these links:

- i. Vermont Better Backroads Manual
http://vtransengineering.vermont.gov/sites/aot_program_development/files/2009%20Better%20Backroads%20Manual.pdf
- ii. Report: Assessing the Effects of Unpaved Roads on Lake Champlain Water Quality. Technical Report #74 by Beverley Wemple
http://www.lcbp.org/wp-content/uploads/2013/07/74_Road-Study_revised_June2013.pdf
- iii. VTrans Road & Bridge Codes and Standards
http://www.vlct.org/assets/Advocacy/Legislative_Reports/Town_Road_Bridge_Standards.pdf
- iv. White River Partnership – Class IV Roads inventory information
<http://whiteriverpartnership.com/class-iv-town-road-project/>

Part B: Work with a VTDEC Road Erosion Technical Advisory Committee to develop and field verify the road erosion inventory methodology

B1. An internal team of VTDEC and VTrans staff with expertise in roadway Best Management Practices will help guide the process and participate in its development (3-4 people).

B2. Several members of the Road Erosion Technical Advisory Committee may participate in field verifying the methodology (further elaborated in Part C).

B3. The Road Erosion Technical Advisory Committee will help identify a mechanism to disseminate the methodology statewide to consultants, road crews, regional planning commissions, municipal staff, college students, citizen volunteers or others, AND determine how to store and increase the usability of the information collected.

Part C: Select at least one municipality to field verify the road erosion template, and test the capital budget template and user guides

C1. The selected municipality ideally has significant road and water interfaces, such as multiple roads crossing water, roads bordering lakes, ponds or rivers, multiple bridges, steep slopes, and other factors.

C2. The inventory and capital budget templates are revised based on this test period and then ready to be applied statewide.

Part D: List of Performance Measures, Deliverables and Target Dates

Performance Measure #1: Project Kick-off Meeting Summary – ***due no later than June 30, 2014***

Performance Measure #2: Draft Road Erosion Inventory Template review with Road Erosion Technical Advisory Committee – ***due no later than September 30, 2014***

Performance Measure #3: Final Road Erosion Inventory Template and User Guide – ***due no later than October 31, 2014***

Performance Measure #4: Draft Capital Budget Planning Template review with Road Erosion Technical Advisory Committee – ***due no later than February 28, 2015***

Performance Measure #5: Final Capital Budget Planning Template and User Guide – ***due no later than March 31, 2015***

Performance Measure #6: *Final presentation to Road Erosion Technical Advisory Committee and other partners including a preview of the field verification results – **due no later than April 30, 2015***

Performance Measure #7: *Final Report including an assessment and revisions determined by the field verification results – **due no later than May 31, 2015***

4. Contract Period

The Ecosystem Restoration Program's goal is to begin the project with a Kick-off Meeting in June 2014 and receive all deliverables from the consultant no later than May 31, 2015.

5. Cost

The cost of the proposal shall not exceed \$9,500. No match is required.

6. Contract Provisions

Respondents to this RFP will need to agree to the State of Vermont Customary Contract Provisions in order to execute a contract for this project. These provisions, which include insurance requirements, are attached to this RFP for reference.

7. Required Proposal Contents

All quotations must include the following information at a minimum:

- A scope of work and project budget. The budget should provide hourly rate and materials cost information.

Provide a breakdown of:

- Fees for staff time, titles, hourly rates and estimated number of hours.
- Any overhead and other costs.

8. Method of Payment

This contract will be performance based. Payments made to the Contractor by the State are based on the successful completion of performance measures. Successful completion of each measure is clearly outlined in the scope of work. If the grantee is unable to obtain successful completion of a performance measure within the terms and conditions of the grant agreement, the Grantee may only receive a portion of the payment for that measure if partially completed or will not receive payment at all if substantial performance of that measure is not demonstrated.

9. Eligibility

Eligible organizations include colleges, universities, nonprofit organizations, for-profit companies, and government agencies. The selected contractor will be responsible for the completion of all project tasks, though subcontracted work may be permitted by the contract manager upon request. Individuals and representatives from organizations that participated in the development or review of this RFP and its contents are ineligible to apply.

10. Criteria for Selection

Proposals will be judged by the following criteria:

1. Demonstrated knowledge of water quality processes, water quality standards, and erosion control best management practices.
2. Demonstrated ability to design and implement erosion control solutions.
3. Practical experience conducting inventories.
4. Technical merit and feasibility of proposed methods to identify, delineate and assess road erosion hazards.
5. Potential for project to enhance technical capability and road infrastructure to reduce sedimentation and nonpoint source phosphorus pollution.
6. Demonstrated ability to create documents and products that are accessible to and can be used by municipalities and local partners working to decrease sedimentation and nonpoint source phosphorus pollution to surface waters.
7. Appropriateness of budget and budget justification, describing how the funds awarded will be used to produce the set of deliverables described in #3. The budget justification must include fees for staff time, titles, hourly rates and estimated number of hours, overhead costs.

11. Proposal Submission

Proposals in an *electronic* format are due Friday May 16, 2014 by 5pm delivered to Michaela Stickney: michaela.stickney@state.vt.us, (802) 490-6117. Late or incomplete proposals will not be considered. Please direct questions about this RFP to Michaela Stickney at the contact information listed above.

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References:

Wemple, B. 2013. Assessing the Effects of Unpaved Roads on Lake Champlain Water Quality. Lake Champlain Basin Program Technical Report #74. Grand Isle, VT